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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,275	12/18/2001	Walter Takeo Yagyu	08200.608	9120

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EXAMINER

FERGUSON, MICHAEL P

ART UNIT PAPER NUMBER

3679

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/020,275  
Filing Date: December 18, 2001  
Appellant(s): YAGYU, WALTER TAKEO

**MAILED**

**AUG 29 2006**

**Technology Center 2600**

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George Ayvazov  
For Appellant

**SUPPLEMENTAL  
EXAMINER'S ANSWER**

This supplemental Examiner's Answer is in response to the Return Order of August 08, 2006. The Supplemental Examiner's Answer correctly includes the relied upon references under the section heading (8) Evidence Relied Upon.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

Examiner notes that this section contains the improper heading of "SUMMARY OF THE INVENTION" instead of --SUMMARY OF CLAIMED SUBJECT MATTER--. However, the section included the proper content as required by 37 CFR 41.37(c)(1)(v).

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

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**(8) Evidence Relied Upon**

USPN 5,368,408	Shimizu et al.	November 29, 1994
USPN 6,398,446	Pazdirek et al.	June 4, 2002
USPN 5,092,703	Kobayashi	March 3, 1992

**(9) Grounds of Rejection**

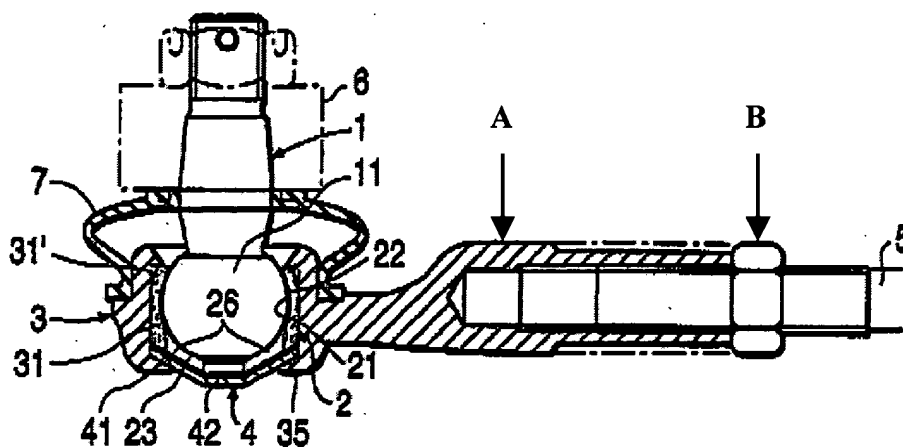
The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (US 5,368,408) in view of Pazdirek et al. (US 6,398,446) and Kobayashi (US 5,092,703).

As to claim 1, Shimizu et al. disclose a tie rod comprising a stem **5** provided at its ends with ball joints **3** each composed of a metallic ball joint box **A** (box **A** of ball joint **3** has a metallic cross-hatching; Figure 6 reprinted below with annotations), a bearing **2**, a protection cover **7** and a ball pin **1**, the tie rod having the function of fixing pieces and components of a mechanical system between themselves, providing to them angular and rotational movement, supporting the strains concentrated therein, wherein the stem of the tie rod is combined with components of the metallic ball joint box (Figure 6).

**FIG. 6**

Shimizu et al. fail to disclose a tie rod wherein a stem of the tie rod is made of material comprising a polymer composite with fiber reinforcement.

Pazdirek et al. teach a tie rod with application of composite with fiber reinforcement, having a stem 22 provided at its ends with ball joints 16 each composed of a composite ball joint box 14, wherein the stem of the tie rod is made of material comprising a metal or a composite and combined with components of the composite ball joint box; the composite material providing for a high strength, light weight stem; the metal and composite materials being interchangeable known alternatives, and the use of metal tie rod components with composite tie rod components being known within the art (Figure 9, column 2 lines 20-22, column 4 lines 41-46). The metal and composite materials perform as functional and structural equivalents when interchangeably combined with the same ball joint box, thus the metal and composite materials are interchangeable known alternatives within the art. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a tie rod as disclosed by Shimizu et al. to have a stem made of a composite as

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taught by Pazdirek et al. in order to provide for a high strength, light weight stem, and as metal and composite materials are interchangeable known alternatives, and the use of metal tie rod components with composite tie rod components is known within the art.

Kobayashi teaches a tie rod with application of polymer composite with fiber reinforcement, having a stem **1** provided at its ends with ball joints **2** each composed of a ball joint box **5**, wherein the stem of the tie rod is made of material comprising a polymer composite with fiber reinforcement and combined with components of the ball joint box; the fiber reinforced polymer composite being corrosion resistant and providing improved strength and decreased weight at a suitable manufacturing cost (Figures 1-3, column 7 lines 28-44). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a tie rod as disclosed by Shimizu et al. in view of Pazdirek et al. to have a stem made of a polymer composite with fiber reinforcement as taught by Kobayashi in order to provide for a stronger, corrosion resistant, light weight tie rod.

As to claim 2, Shimizu et al. fail to disclose a tie rod wherein ball joints are attached to the ends of a stem by chemical fixing, making the tie rod a tie rod with fixed length.

Pazdirek et al. teach a tie rod wherein ball joints **16** are attached to the ends of a stem **22** by adhesive (adhesive constituting chemical fixing), making the tie rod a tie rod with fixed length; the chemical fixing providing for a more secure, permanent connection between the ball joints and the stem (column 4 lines 41-46). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made

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to modify a tie rod as disclosed by Shimizu et al. to have ball joints attached to the ends of a stem by chemical fixing, making the tie rod a tie rod with fixed length as taught by Pazdirek et al. in order to provide for a more secure, permanent connection between the ball joints and the stem.

Appellant is reminded that **process limitations are given little patentable weight in product claims**. The patentability determination of product-by-process claims is based on the product itself, even though such claims are limited and defined by the process. See MPEP § 2113. "The patentability of a product does not depend on its method of production." In re Thorpe, 777 F.2d 695,698,USPQ 964,966 (Fed.Cir.1985).

As to claim 3, Shimizu et al. disclose a tie rod wherein ball joints **3** are attached to the ends of a stem **5** by means of a thread on the body of the stem and in the ball joints' boxes **A**, making the tie rod a tie rod with variable length, the adjustment of its length and the locking of the tie rod being provided by nuts **B** provided on the threads of the stem and that are tightened against the boxes of the ball joints (Figure 6).

#### **(10) Response to Argument**

As to claim 1, Appellant argues that:

Shimizu et al. in view of Pazdirek et al. and Kobayashi does not disclose a tie rod comprising a stem provided at its ends with *ball joints each composed of a metallic ball joint box*, wherein the *stem of the tie rod is made of material comprising a polymer composite*.

Examiner disagrees. As to claim 1, Pazdirek et al. teach a tie rod comprising a stem **22** provided at its ends with ball joints **16** each composed of a composite ball joint box **14**, wherein the stem of the tie rod is made of material comprising a metal or a composite and combined with components of the composite ball joint box; the composite material providing for a high strength, light weight stem; the metal and composite materials being interchangeable known alternatives, and the use of metal tie rod components with composite tie rod components being known within the art (Figure 9, column 4 lines 41-46). The metal and composite materials perform as functional and structural equivalents when interchangeably combined with the same ball joint box, thus the metal and composite materials are interchangeable known alternatives within the art. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a tie rod as disclosed by Shimizu et al. to have a stem made of a composite as taught by Pazdirek et al. in order to provide for a high strength, light weight stem, and as metal and composite materials are interchangeable known alternatives, and the use of metal tie rod components with composite tie rod components is known within the art.

Appellant further argues that Pazdirek et al. teaches away from metal and composite material being interchangeable.

Examiner disagrees. Pazdirek et al. teach a tie rod wherein a stem **22** of the tie rod is made of material comprising a metal or a composite and combined with components of the composite ball joint box; the metal and composite materials being interchangeable known alternatives, and the use of metal tie rod components with



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composite tie rod components being known within the art (Figure 9, column 4 lines 41-46). The metal and composite materials perform as functional and structural equivalents when interchangeably combined with the same ball joint box, thus the metal and composite materials are interchangeable known alternatives within the art.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Michael P. Ferguson

March 16, 2006



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SUPERVISORY PATENT EXAMINER  
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Conferees:

Michael P. Ferguson, Examiner

Daniel P. Stodola, Supervisory Patent Examiner 

Robert J. Sandy, Primary Examiner 